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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,609	01/22/2004	Joseph Szwarc	P05871US01	5042
22885	7590	04/25/2005	EXAMINER	
MCKEE, VOORHEES & SEASE, P.L.C. 801 GRAND AVENUE SUITE 3200 DES MOINES, IA 50309-2721			EASTHOM, KARL D	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/762,609

Applicant(s)

SZWARC ET AL. 

Examiner

Karl D. Easthom

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9, and 11-15 are rejected under 35 U.S.C. 103(a) as obvious over Zandman '413 in view of Witt et al. Zandman discloses the claimed invention except for foils on both sides of the substrate at Figs. 5-6, where the substrate is alumina having the claimed thickness at col. 5, lines 40-45 (4-40mils), the resistive film TCR is zero at one point at Fig. 2 or at Fig. 5, (and thus 1 at some lower temperatures at least), the thickness is in the claimed range of 30-300 micro inches at col. 5, lines 1-10 (.03-3 mils) cemented by 4 to the substrate, and all selected to produce a reduction of resistance change at the bottom of col. 1, for example. Note that at Fig. 6, the overall TCR is close to zero or it would have been obvious to make it in the claimed range in order to match it to that of the substrate, which is close to zero, as noted at col. 6, lines 1-30, col. 3, lines 15-35. For claims 2-6, all the parameters are altered to reduce the resistance as noted at col. 1. For example, for claims 2-3, substrates and foils are selected at the top of col. 5, while the foil thickness is selected as noted above. For claim 6, the resistor or a resistor is etched and selected to reduce the TCR as noted at col. 6, lines 1-50. The pattern will reduce bending as compared to a case where the TCR of the resistors are not selected, where bending is reduced at col. 5, lines 45-65. In claims 7-9, cement is chosen at col. 5, lines 44-47, while the thickness is "selected" since there is some thickness in the end. That is, how certain parameters are selected are not germane to the product claim where in the end all claimed elements are present. Note that applicant employs alumina in his specification, and that appears to be the only

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substrate material disclosed, so that it inherently has the claimed modulus of elasticity.

Zandman discloses such a cermet or cordierite ceramic substrate at col. 5, lines 5-30 which is expected to have the claimed modulus since applicant employs alumina, where it would have been obvious to employ the alumina as a single substrate where the substrate is listed as a ceramic at col. 5, lines 5-31. In claim 11, the TCR can be determined over any range, and no structure results from the determination. Where alumina lacks the claimed modulus, or where for example certain aspects are not chosen as claimed such as the thickness, or cement type, and such a mental step for a product claim is required, it would have been obvious to select such a modulus, or other parameter, to reduce the TCR where col. 5, lines 5-30 discloses choosing a substrate to minimize the TCR and where a compensating substrate is chosen based upon its thickness, modulus of elasticity and coefficient of thermal expansion, see col. 5, lines 45-79. Note too, with any prior art device such as that of Zandman, one could imagine an increase such as by choosing another material, so that the product of Zandman is a reduction as to that imagined product. Similar remarks apply to claim 12, since the process steps create no distinct product, and see col. 9 specifically disclosing offsetting strain (stress) as claimed. In claim 13, the device is capable of operating hotter than ambient since resistors create heat, Witt discloses resistors on both sides of the substrate in order to minimize bending so as to handle more power. Zandmann discloses putting structures on the opposite side of the substrate in order to minimize bending in order to handle power also, see col. 2, lines 2-20, col. 5, lines 46-67, so that placing another equal resistor type on the other side would have been obvious.

2. Applicant's arguments filed 2/22/05 have been fully considered but they are not persuasive. Applicant argues that Zandman does not disclose an insulating substrate. This is

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not correct as noted above, where ceramic materials are disclosed at col. 5, lines 15-30. As to Witt disclosing thick films, this is not material since Zandmann discloses a foil.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl D Easthom whose telephone number is (571) 272-1989.

The examiner can normally be reached on M-Th, 5:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Karl D Easthom  
Primary Examiner  
Art Unit 2832

KDE